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ABSTRACT

This study was conducted to assess the level of AIDS-related knowledge, attitudes, and risk behaviors of a group of predominantly sexually active high school seniors (N=734) and to evaluate the relative effectiveness of three AIDS prevention activities in improving knowledge, attitudes, and behaviors among these students. The educational program consisted of two parts. First, a slide show/lecture was given by an AIDS specialist, which focused on basic facts about AIDS and presented the personal stories of several young patients. Second, students participated in small group sessions in one of three AIDS prevention activities: a question and answer session, a presentation by a young person with AIDS (PWA), and a role playing activity. Sessions leaders and health and physical education teachers from participating schools were trained by the research team. Data were gathered by testing AIDS-related knowledge and attitudes prior to and following the slide show/lecture and a questionnaire after participation in small group activities. Five weeks later, students completed a knowledge and attitudes delayed posttest as well as a questionnaire on which behavioral changes related to AIDS were reported. Results indicate that significant gains were made in attitudes towards PWAs and in decreasing risk behaviors. (LL)

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A Controlled Experimental Evaluation of Three AIDS Prevention Activities for Improving Knowledge, Changing Attitudes, and Decreasing Risk Behaviors of High School Seniors

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ED352348

Objectives

1. To assess the level of AIDS-related knowledge, attitudes, and risk behavior of a group of high school seniors and
2. To evaluate the relative effectiveness of three AIDS prevention activities in improving knowledge, attitudes, and behaviors among these students.

Methods

The educational program consisted of two parts: First, a physician who is an AIDS specialist presented a 50-minute slide show/lecture in a large auditorium for all seniors at each school. The lecture focused on the basic facts about AIDS and presented the personal stories of several young patients. Second, later the same day students participated in small groups in one of three AIDS prevention activities: a question and answer (Q/A) session, a presentation by a young person with AIDS (PWA), a role playing (RP) activity. Leaders of the Q/A and RAP sessions were health/PE teachers from the participating schools who were trained by the research team in half-day sessions.

Data Sources

Participants. 734 twelfth-grade students at the three public high schools in a small southern city provided useable data. Ages ranged from 16 to 21 years; 59% were white and 40% were black; 52% were female.

Data collection. Data were collected in four waves: First, within a week prior to the lecture students completed a pretest of AIDS-related knowledge and attitudes. Second, immediately following the slide show/lecture, students completed a posttest (knowledge and presentation evaluation) (Pst-1). Third, following the small group activities, students completed a questionnaire that evaluated their response to these activities (Pst-2). Fourth, five weeks later students completed a knowledge and attitude delayed posttest as well as a questionnaire on which they reported behavioral changes related to AIDS during the intervening time period (Pst-5).

Instruments. The instruments used were essentially identical to those developed for use in our earlier studies and have therefore been described elsewhere. In brief, there were 27 knowledge items in a "True/False/Don't Know" format, 13 attitude items in a Likert-scale format (Strongly Agree to Strongly Disagree), 6 Likert-scale items evaluating the large group presentation, 6 Likert-scale and two open-ended items evaluating the small group activities, and 13 multiple choice items assessing behavioral change. The 27 items were combined into a total knowledge score and 6 of the attitude items were combined into a "Attitude toward PWA's" (ATPWA) score. Subjects were asked to provide their names and basic demographic information on the pretest and on the knowledge/attitude delayed posttest although many declined to do so. All other forms were completely anonymous. The Pst-1 surveys were collected by one of the researchers; all other forms were collected by classroom teachers according to a written protocol.

Paper presented at the annual meeting of the American Educational Association, San Francisco, CA, April 20-24, 1992

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Results

AIDS-related Knowledge. The mean knowledge score of the participants was 74.3%, reflecting reasonably adequate knowledge of AIDS issues prior to the study. Seven of the items were answered correctly by at least 90% of the respondents. Nevertheless, students evidenced considerable lack of knowledge of some issues. Less than half (44%) of the students knew that anal sex is the most dangerous type of sex for HIV transmission; only 18% knew that there is practically no risk of getting AIDS from blood transfusions today.

The immediate posttest (Pst-1) evidenced significant gains in the knowledge score, from 74.4% to 83.4% ($t=10.53$; $p<.001$). Items related to HIV transmission myths tended to show the greatest improvement. Knowledge in a few areas remained low, e.g., only 64% of Pst-1 respondents agreed that "Getting AIDS depends on whether or not you practice safe sex, not on the group you hang out with." No significant change in total knowledge scores was noted between the Pst-1 and Pst-5 tests ($M=82.2\%$; $t=-1.17$; $p=.241$).

AIDS-related Attitudes. Pretreatment attitudes of the study participants were modestly positive. The mean of the 6-item ATPWA scale was 3.34 (of 5). Response to some items was quite favorable, e.g., 67% of the students disagreed with a policy of prohibiting infected students from attending their school; 74% said they would keep a friendship with an infected person. Approximately 30% worried about getting AIDS and expressed a desire to be tested for HIV. Fully 82% agreed that "AIDS is the scariest disease I know."

Responses to the Pst-5 survey revealed a modest but significant improvement in the mean ATPWA score from 3.35 to 3.55 ($t=3.58$; $p<.001$). Thirty nine per cent reported that they worried more about getting AIDS; 13% worried less.

AIDS-related behaviors. Approximately two thirds (66%) of the respondents reported that they had ever had sex with another person. Of these sexually active participants, 49% reported that they had changed their sexual behavior because of the AIDS lecture and activities. Of those individuals who reported having sex during the five weeks following the AIDS prevention activities, 56% reported more frequent condom use and 26% reported fewer sexual partners. In addition, 30% of these recently sexually active students said they had decided not to have sex as often since the school program; 14% decided not to have sex again before marriage. Of those individuals who reported having had more than one partner since the educational program, 36% reported talking with their partners more often about their sexual histories and AIDS. Fifteen students (3%) reported ever using IV drugs. Of the ten individuals who reported ever having shared a needle, one stopped and two shared less often.

Program evaluations. All evaluation items for both the lecture and all three small group activities received a 93% or greater approval rating. From 53 to 60% of the small group participants reported that they planned to change their sexual behavior because of that activity.

Comparisons by treatment group. There were no significant differences in the pretreatment knowledge scores between students in the three treatment groups ($F=.80$; $p=.45$) or between ATPWA scores ($F=1.65$; $p=.193$). Pst-5 knowledge scores were also not significantly different between the treatment groups except that the PWA group scores were lower than those of the QA group ($M_{pwa}=21.39$, $M_{qa}=23.13$;$t=1.74$; $p=.001$). Students differed by treatment group in their mean Pst-5 ATPWA scores ($F=3.48$; $p=.03$). Post hoc contrast analysis of group means revealed the attitudes of the role play group toward PWA's (3.76) to be significantly more positive than the

attitudes of the QA group $\underline{M}_{qa}$=3.55, t=2.62; p=.009) but not significantly different from those of the students who heard the presentation by a PWA. The role play students also judged their activity as more fun than did other students (t_{pwa}=10.68, p<.001; t_{qa}=10.22, p<.001).

Treatment groups also differed in their assessment of how worthwhile (F=30.84; p<.001), interesting (F=20.01; p<.001), and embarrassing (F=31.61; p<.001) their respective small group activities were. Contrast analyses of mean responses to these three items revealed that the students who attended the PWA presentation evaluated their activity as more worthwhile (t_{rp}=4.77, p<.001; t_{qa}= 7.64, p<.001), more interesting (t_{rp}=4.41, p<.001; t_{qa}=-5.94, p<.001), and less embarrassing (t_{rp}=-5.90, p<.001; t_{qa}=7.27; p<.001) than did the other treatment groups.

There were significant differences among treatment groups in the proportion of respondents who agreed that they had changed their sexual behavior as a result of the AIDS prevention activities (chi sq = 6.41; p=.04). Post hoc pairwise comparisons revealed no difference between the PWA and QA groups on this item ($\underline{M}_{pwa}$=45.3%; $\underline{M}_{qa}$=46.7%; chi sq =.051; p=.82). The proportion of role play students who reported changing their sexual activities (65.9%), however, was significantly greater than the proportion of either the PWA group (chi sq = 5.03; p=.025) or the QA group (chi sq = 5.98; p=.014). Although no significant differences among groups were obtained for any of the other behavioral items, students in the role play group tended to report having less trouble controlling sexual impulses since the treatment ($\underline{M}_{pwa}$=22.9%; $\underline{M}_{qa}$=16.1%; $\underline{M}_{rp}$=38.3%). Among the recently sexually active students, RP students tended to report fewer partners ($\underline{M}_{pwa}$=22.2%; $\underline{M}_{qa}$=25.9%; $\underline{M}_{rp}$=37.5%), to be more selective of partners ($\underline{M}_{pwa}$=45.6%; $\underline{M}_{qa}$=62.4%; $\underline{M}_{rp}$=69.2%), and to use condoms more often ($\underline{M}_{pwa}$=52.6%; $\underline{M}_{qa}$=52.6%; $\underline{M}_{rp}$=77.8%). Among the students who had had more than one sex partner since the treatment, those who attended the PWA session tended to talk more with their partners about their sexual histories and AIDS ($\underline{M}_{pwa}$=41.4%; $\underline{M}_{qa}$=28.6%; $\underline{M}_{rp}$=33.3%).

Conclusions

The majority of students in this study are sexually active. The AIDS prevention activities employed here were well received and effective in achieving significant gains in knowledge, attitudes toward PWA's, and less risky sexual behaviors. The role play exercise and the presentation by a PWA resulted in the most positive changes in attitudes toward such individuals. Participants in the latter activity also perceived the PWA presentation as more worthwhile, more interesting, and less embarrassing than did students in the other two activities. Participants in the role play exercise judged this activity as the most fun and appear to have made the greatest changes in behaviors that place them at risk of HIV infection.

Educational/Scientific Importance

Given the number of currently infected individuals in the United States and the epidemiological projections for the rapid rise of HIV infections in American heterosexuals, especially adolescents, the paramount importance of developing effective AIDS prevention programs is abundantly clear. The prevention activities employed in this study are particularly noteworthy because they are shown to be effective in achieving gains not only in HIV-related knowledge, but also in improving attitudes and decreasing risk behaviors. Moreover, since classroom teachers were trained to lead the group activities, there is every reason to believe that similar results can be obtained by educators in other settings.

The current evaluation study is of particular importance because it differs from most published evaluations of AIDS prevention activities in several important ways. First, the study documents changes in behaviors not changes in behavioral intentions. Second, formal control groups are not common in such studies because ethical considerations do not permit the use of no-treatment or placebo treatment controls. In the present study, each treatment serves as a control for the other two. Third, the use of a delayed posttest permits the assessment of attitudinal change over a reasonable period of time as well as of potential forgetting. Finally, the sample in this study is larger than many others and is drawn from a non-high incidence population.